



Office of Deactivation & Decommissioning/Facility Engineering Quarterly Newsletter

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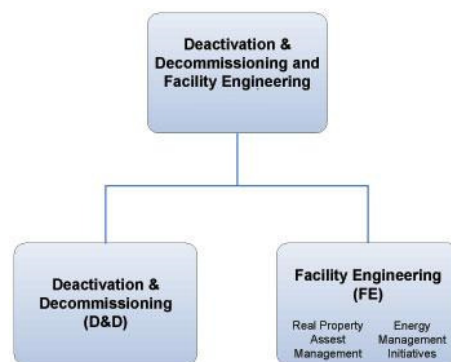
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The Deactivation & Decommissioning/Facility Engineering Organization—(EM-23)

The mission for the Office of Deactivation & Decommissioning (D&D) and Facility Engineering (D&D/FE) is to provide EM Field Offices and Program Managers better tools to manage EM buildings and assets by improving D&D technologies and optimizing real property assets. Our D&D mission is to reduce project technical risk and uncertainty through Technology Development and Deployment, thus enabling safe, cost-effective, efficient, and timely D&D of facilities and their contents. This is achieved by providing technical reviews, readiness assessments, assistance, and guidance. Technology Development and Deployment collaboration with national laboratories, universities, and the private sector is driven by the timely insertion of need-driven technical solutions to EM's baseline D&D activities, thus enhancing worker safety, accelerating schedules, and reducing costs. An additional important responsibility delegated to EM-23 is the coordination for, and evaluation of, excess contaminated facilities, materials, and wastes proposed for transfer by DOE's Offices of Science, Nuclear Energy, and National Nuclear Security Administration. Our Facility Engineering mission is to work with

Field Offices to ensure that remaining EM real property assets are optimized to support ongoing cleanup operations and to transform EM's management of energy, environmental resources, and transportation in a more environmentally protective manner. When they are no longer needed to support EM's mission, EM-23 coordinates transfers of clean real property assets to the private sector for reuse.



EM-23 office has three functional areas:

- Deactivation & Decommissioning (D&D)
- Real Property Assets Management (RPAM)
- Energy Management Initiatives (EMI)

Deactivation and Decommissioning (D&D)

The D&D function within the Office of D&D and Facility Engineering focuses on innovative applications and timely insertion of existing commercially available technologies, processes, and hardware to identify and address D&D risks and challenges. The program supports the development of informed facility D&D strategy, such as In-Situ Decommissioning; enhanced verifiabil-

ity of the efficacy of D&D operations; increased productivity and personnel safety of D&D operations; facilitation of acceptable facility end-state; and independent verification of cleanup goals.

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Demonstration of DeconGel™ at the Oak Ridge National Laboratory Building 2026

Decontamination agents can be an effective means of reducing or eliminating contamination on building surfaces and equipment as well as improving worker safety and reducing personnel protection equipment requirements. Decontamination prior to D&D can also reduce the volume of contaminated debris going into radiological landfills, saving on landfill space and disposal costs. Decontamination agents also have the potential to reduce the cost and accelerate the schedule for D&D by reducing contamination control and monitoring requirements before and during D&D. The tests provided positive initial results for the Cellular Bioengineering Incorporated (CBI) DeconGel™ products. Further product development, testing and demonstrations are planned for Fiscal Year 2010 leading to the potential for full deployments. Under a grant with Cellular Bioengineering Inc. (CBI) managed by EM-23 for EM, CBI decontamination gels were tested at the Oak Ridge National Laboratory. DeconGel™ 1101 was applied to a

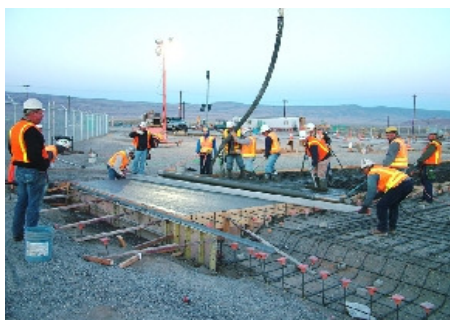
20-ft. by 30-ft. contaminated area on the floor and tracks behind the hot cells in Building 2026 and DeconGel™ 1121 was sprayed and painted on the walls and hot cell doors up to about 2-ft. in the same area. The initial application removed an average of about 50% of the alpha and beta transferrable contamination. Areas that had not been previously treated with sealants or fixatives showed removal efficiencies greater than 90%, as did some of the floor areas. It is hypothesized that in areas of lower removal efficiency the DeconGel™ removed the previous treatment materials but was not able to fully penetrate into the porous surfaces of the concrete because of the previous treatment processes. The tracks contained accumulated treatment material and some debris. It is believed that the DeconGel™ pulled up this material and exposed the underlying contamination resulting in a second application of DeconGel™ 1101 to the tracks. Analytical results showed additional removal of



about 62% of the transferrable alpha contamination and 37% of transferrable beta contamination. The role previous treatment processes played in this field test, as it relates to the efficacy of the tested gels, is still unclear.

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Real Property Asset Management (RPAM)



The Real Property Asset Management (RPAM) portion of FE has a driving programmatic challenge of managing 28 percent of the Department's assets within EM's D&D and clean-up program effort, which involves 114 sites with 4,100 buildings and

other structures. Our goal is the cost-effective management of EM facilities to protect people and the environment, support EM's cleanup mission, and reduce EM's footprint and operating costs. Working together with the Field Office RPAM community we confirm that maintenance is adequately funded to protect workers, the environment, and mission readiness; identify and implement best practices and lessons learned; and develop new tools and processes to mitigate and reduce risk and maximize performance of real asset portfolios during D&D and waste disposal operations. Partnering with Field Offices and Headquarters Support Offices, we coordinate property transfers to reduce EM's footprint and operating costs while promoting community redevelopment.

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Facility Information Management System (FIMS) Validations

FIMS is DOE's corporate real property database. Program Offices are required to annually validate the information in FIMS. EM-23 partnered with Field Offices to complete in early April FIMS validations at all sites where EM is the Lead Program Secretarial Officer (LPSO). The validation process consisted of statistical sampling of FIMS's 24 data elements for the Federal Real Property Council. Assets validated include Buildings and Other Structures and Facilities (OSF). In fiscal year 2009, all of EM's data validations received a green status by the Office of Engineering and Construction Management.

POC — Adam Pugh—

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Left to right: Dave Black, Bernardino Rodriguez, Michelle Ware, and Adam Pugh inside the salt mine at the Waste Isolation Pilot Plant, NM

Energy Management Initiatives (EMI)

Our EMI mission is to partner with Field Offices to achieve the eight initiatives and goals established under the Secretary's Transformation Energy Action Management (TEAM) initiative. Our goal is to successfully support all energy and water management initiatives that reduce energy and water consumption, improve sustainable technologies, and utilize alternative fleet vehicles to promote DOE as the federal leader in energy, environmental, and transportation management.

EM-23 in partnership with Field Offices, develops and updates EM's an-

nual Executable Plan, tracks TEAM accomplishments, and identifies strategies to implement efficiency improvement, renewable energy, and sustainable building projects. EM-23 also partners with the Federal Energy Management Program (FEMP) to ensure that EM's mission is considered as new guidance for DOE is developed. In 2008, one of EM's TEAM accomplishments occurred at the Savannah River Site (SRS) when SRS made a new biomass plant operational, thereby helping EM take the lead in meeting the renewable energy goal.

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"The Savannah River Site has always strived to reduce emissions above and beyond allowable limits and to be a good steward of the environment. This new, right-sized plant clearly supports those goals and will provide reliable, efficient steam with substantial reductions in greenhouse gases."

- Patrick Burke,

DOE Utility Manager



A-Area Steam Plant -

Using wood chips and old tires (biomass) as a renewable energy source

Waterline Property Transfer: EM Gives Away a Waterline and Gets a 100-Year Supply of Water

The Carlsbad Field Office recently transferred to the City of Carlsbad ownership of a waterline that transports water from the city's well fields to the Waste Isolation Pilot Plant (WIPP). In return for ownership of the waterline, the city guaranteed WIPP a secure supply of water for 100 years. The city gets improved access to its water supplies and the ability to serve more customers; WIPP gets a secure water supply and avoids the

costs of maintaining, repairing, and — eventually — replacing the 31-mile waterline.

DOE has broad authority under Section 161(g) of the Atomic Energy Act to transfer property when it is in the best interests of the government to do so. EM often uses this authority to transfer unneeded real property, by sale or lease, to the private sector for reuse. In this case, EM transferred real property that was not excess to

optimize its assets and reduce its operating costs. In this team effort, EM-23 supported the Carlsbad Field Office and was in turn supported by the Office of Engineering and Construction Management, the Office of General Council, and the Office of the Chief Financial Officer.

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U.S. Department of Energy



D&D/FE IS ON THE WEB AT - [HTTP://WWW.EM.DOE.GOV/EM20PAGES/DDFE.ASPX](http://www.em.doe.gov/EM20PAGES/DDFE.ASPX)

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Technical Assistance: The Staff Knowledge Directory

EM-23 staff members represent a knowledge-base available to help assist projects in identifying solutions with technical assistance across a wide-range of Deactivation and Decommissioning (D&D) and Facility Engineering (FE) topics. The following listing is a sampling of knowledge areas and contact information.

George Cava (P.E.) –
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D&D — Mechanical Engineering: Ocean Engineering: program & project management, D&D guidance & planning, External Technical Reviews (ETRs)

Dares Charoenphol (P.E.) –
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D&D — Civil Engineering: engineering design, construction, and cost estimating; business and project management; transportation

John De Gregory –
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FE — Electrical Engineering: knowledge management; information research & management; robotics and remote systems; communications

Wilfred Figueroa –
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D&D — Mechanical Engineering: project scheduling; project management; ETRs

Shirley Frush –
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D&D — Geology: CERCLA & NEPA regulations; grant management; project reviews

Donna Green –
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FE (*Lead*) — Chemical Engineering: Land Transfer; Energy Management Initiative; Real Property Assets Management

Stephen Lien (PhD) –
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D&D — BioChemistry: grant management; SBIR's; sensors & instrumentation

Don Mackenzie –
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D&D — Health Physics: ETRs; radiation protection; ALARA controls

Richard Moss (P.E.) –
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FE — Electrical Engineering: electrical power distribution system planning, design, operations, & maintenance; Ten Year Site Plans; Real Property Asset Management

Charles Nalezny (PhD) –
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FE — Civil Engineering: Property Transfer; ETRs

Adam Pugh (EIT) –
adam.pugh@hq.doe.gov [202-586-3264]

FE — Architectural Engineering: Facilities Information Management (Mgmt.) System (FIMS); Real Property Asset Management (RPAM); Condition Assessment Information System (CAIS)

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D&D (*Lead*) — Environmental Sciences: D&D policy, guidance, and planning; end-points methodology; program/project management

Michelle Ware –
michelle.ware@em.doe.gov [202-586-5182]

FE — Mechanical Engineering: Energy, Water, and Transportation Mgmt.; Leadership in Energy and Environmental Mgmt. (LEED); Transformational Energy Action Mgmt. (TEAM) Initiative

Alexander Williams (PhD) –
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D&D — Chemistry: Radiation Protection & Monitoring; Radiological Cleanup Criteria (RESRAD); radionuclide chemistry, surveys, and procedures



EM Environmental Management

safety ♦ performance ♦ cleanup ♦ closure

D&D/FE IS ON THE WEB AT - [HTTP://WWW.EM.DOE.GOV/EM20PAGES/DDFE.ASPX](http://www.em.doe.gov/EM20PAGES/DDFE.ASPX)